FIG. 1

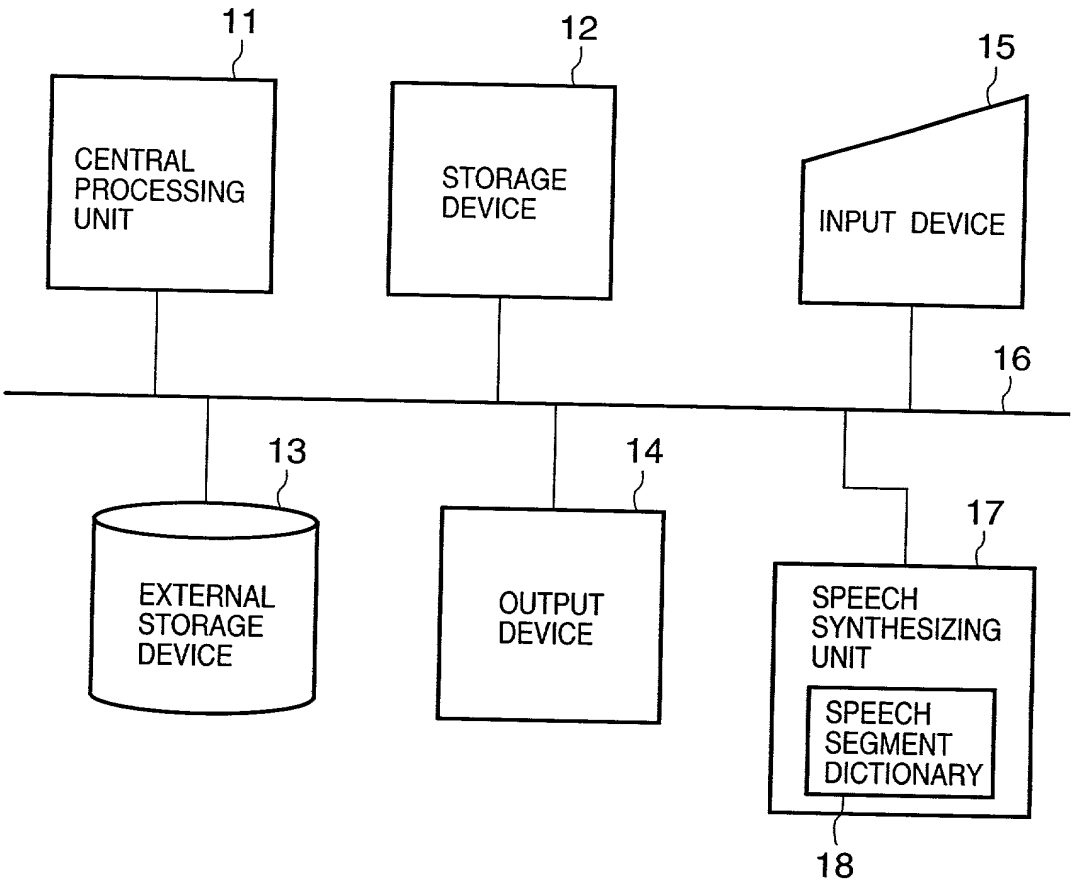
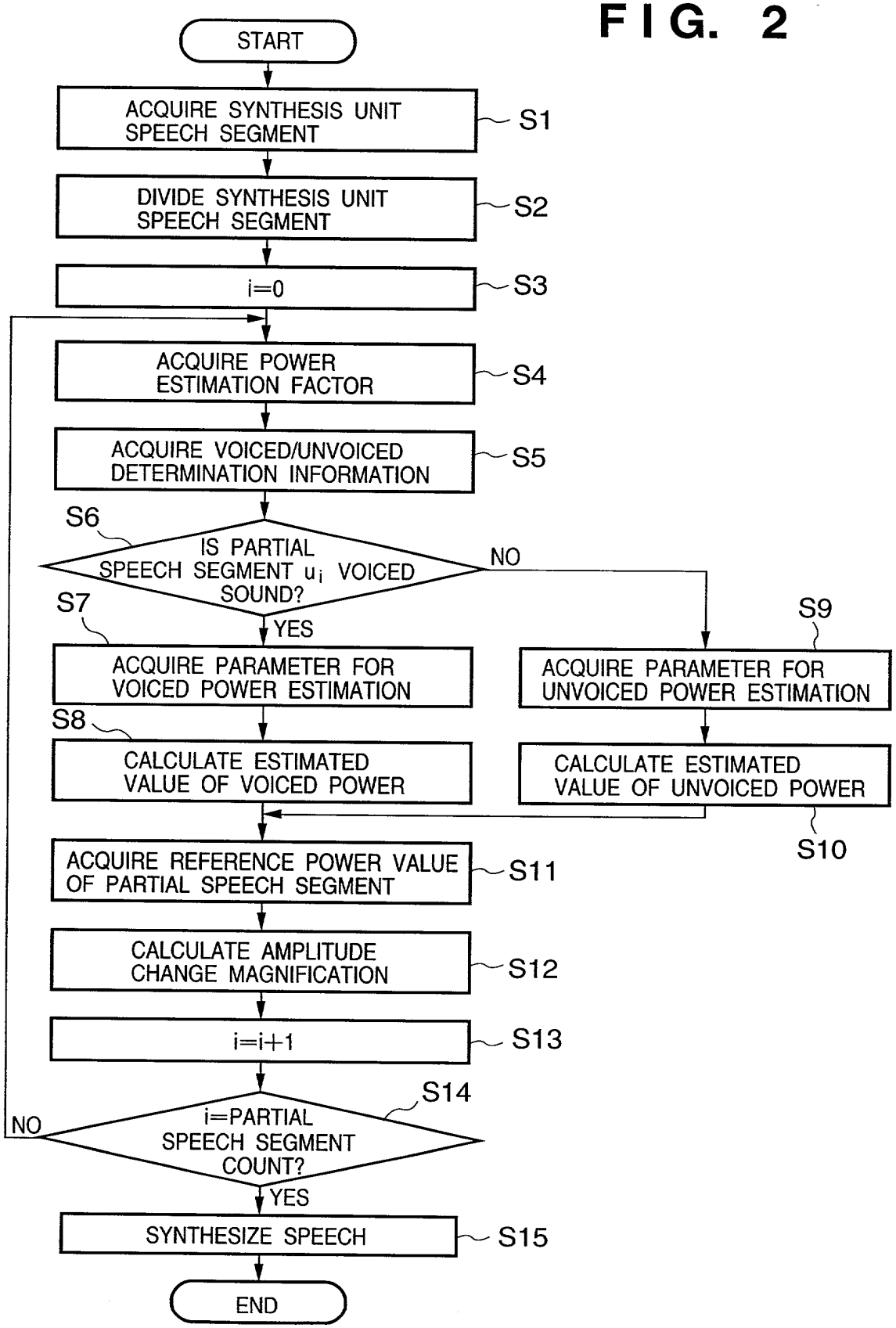

11
CENTRAL PROCESSING UNIT
12
STORAGE DEVICE
15
INPUT DEVICE
16
13
EXTERNAL STORAGE DEVICE
14
OUTPUT DEVICE
17
SPEECH SYNTHESIZING UNIT
SPEECH SEGMENT DICTIONARY
18

FIG. 2


START
ACQUIRE SYNTHESIS UNIT SPEECH SEGMENT
S1
DIVIDE SYNTHESIS UNIT SPEECH SEGMENT
S2
i=0
S3
ACQUIRE POWER ESTIMATION FACTOR
S4
ACQUIRE VOICED/UNVOICED DETERMINATION INFORMATION
S5
S6
IS PARTIAL SPEECH SEGMENT u_i VOICED SOUND?
NO
YES
S7
ACQUIRE PARAMETER FOR VOICED POWER ESTIMATION
S8
CALCULATE ESTIMATED VALUE OF VOICED POWER
S9
ACQUIRE PARAMETER FOR UNVOICED POWER ESTIMATION
CALCULATE ESTIMATED VALUE OF UNVOICED POWER
S10
ACQUIRE REFERENCE POWER VALUE OF PARTIAL SPEECH SEGMENT
S11
CALCULATE AMPLITUDE CHANGE MAGNIFICATION
S12
i=i+1
S13
S14
i=PARTIAL SPEECH SEGMENT COUNT?
NO
YES
SYNTHESIZE SPEECH
S15
END

JP06236196

FIG. 3

FACTOR NAME	PHONEME TYPE	MORA COUNT	ACCENT TYPE	MORA POSITION	・・・
VALUE	/i/	5	2	3	・・・

FIG. 4

SPEECH SEGMENT ID	0			1			・・・
PARTIAL SPEECH SEGMENT NUMBER	0	1	2	0	1	2	・・・
VOICED/ UNVOICED FLAG	NO	YES	NO	NO	YES	YES	・・・

FIG. 5

FACTOR NAME	PHONEME TYPE			MORA COUNT			ACCENT TYPE			MORA POSITION			・・・
FACTOR	/a/	/i/	・・・	1	2	・・・	0	1	・・・	1	2	・・・	・・・
COEFFICIENT	21730	10492	・・・	−1320	−4174	・・・	236	−10	・・・	8121	5230	・・・	・・・

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FIG. 6

FACTOR NAME	PHONEME TYPE			MORA COUNT			ACCENT TYPE			MORA POSITION			・・・
FACTOR	/t/	/k/	・・・	1	2	・・・	0	1	・・・	1	2	・・・	・・・
COEFFICIENT	1030	985	・・・	−20	−45	・・・	−4	−17	・・・	945	753	・・・	・・・

FIG. 7

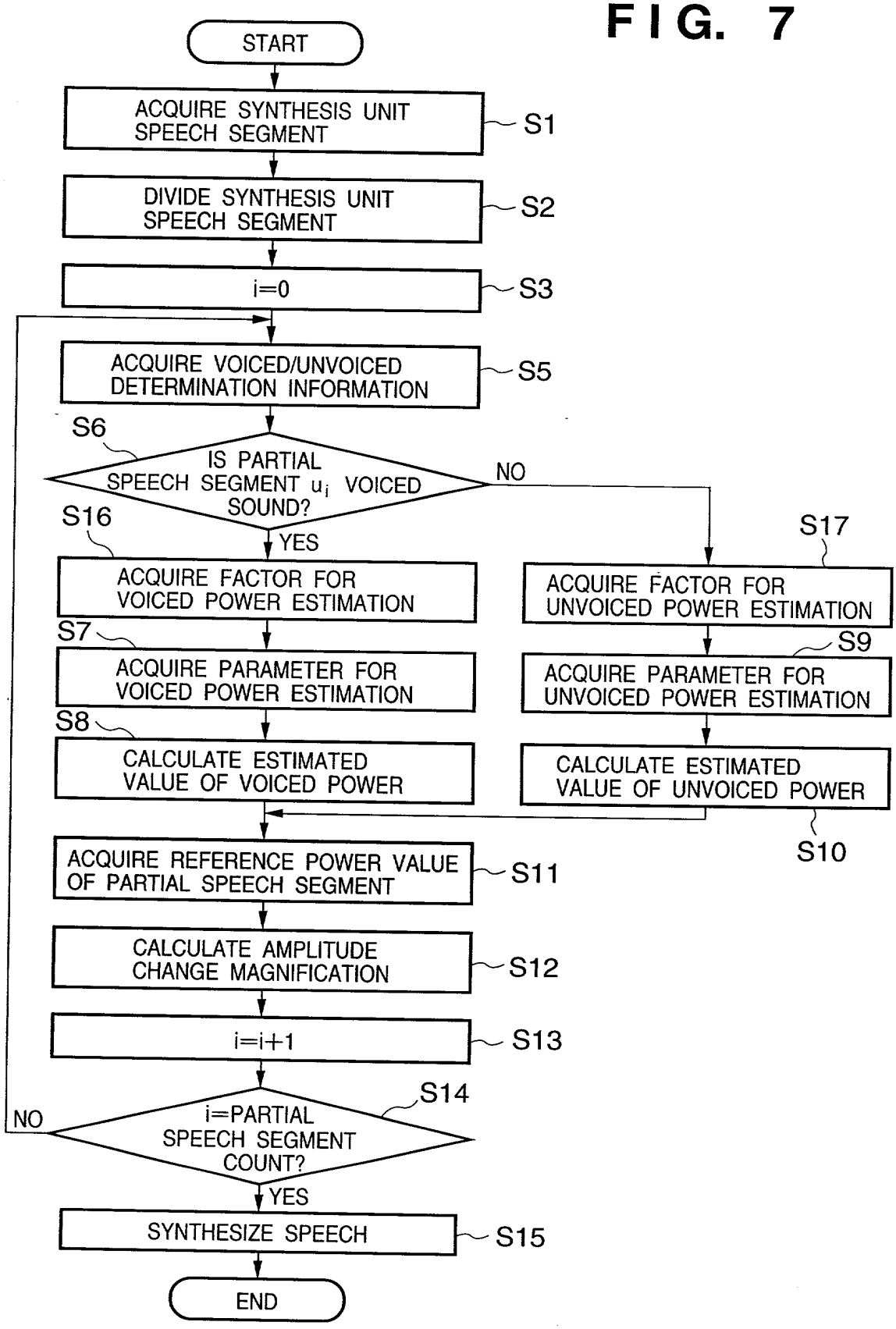

START
ACQUIRE SYNTHESIS UNIT SPEECH SEGMENT
S1
DIVIDE SYNTHESIS UNIT SPEECH SEGMENT
S2
i=0
S3
ACQUIRE VOICED/UNVOICED DETERMINATION INFORMATION
S5
S6
IS PARTIAL SPEECH SEGMENT u_i VOICED SOUND?
NO
YES
S16
ACQUIRE FACTOR FOR VOICED POWER ESTIMATION
S7
ACQUIRE PARAMETER FOR VOICED POWER ESTIMATION
S8
CALCULATE ESTIMATED VALUE OF VOICED POWER
S17
ACQUIRE FACTOR FOR UNVOICED POWER ESTIMATION
S9
ACQUIRE PARAMETER FOR UNVOICED POWER ESTIMATION
CALCULATE ESTIMATED VALUE OF UNVOICED POWER
S10
ACQUIRE REFERENCE POWER VALUE OF PARTIAL SPEECH SEGMENT
S11
CALCULATE AMPLITUDE CHANGE MAGNIFICATION
S12
i=i+1
S13
S14
i=PARTIAL SPEECH SEGMENT COUNT?
NO
YES
SYNTHESIZE SPEECH
S15
END

FIG. 8

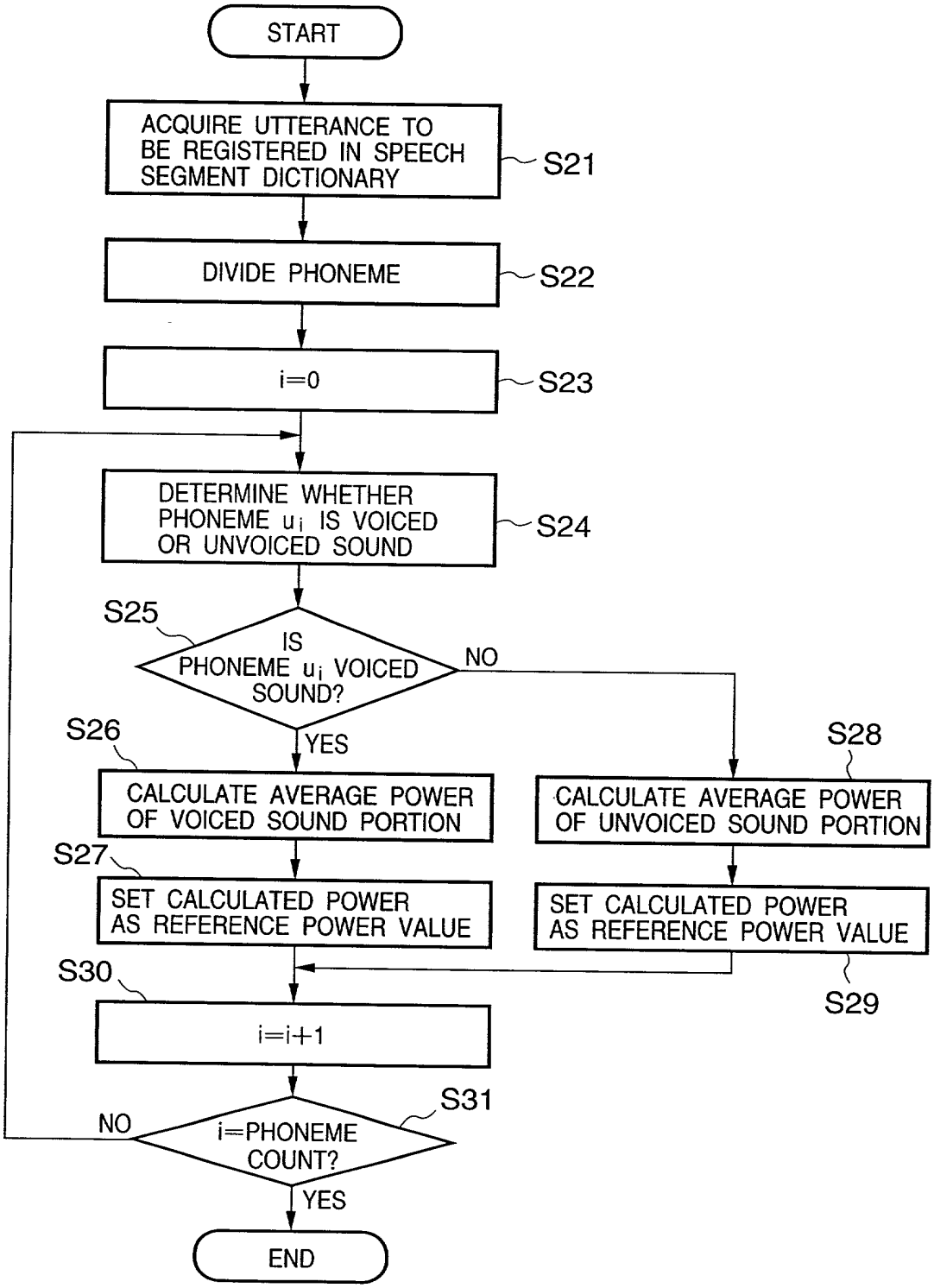

START
ACQUIRE UTTERANCE TO BE REGISTERED IN SPEECH SEGMENT DICTIONARY
S21
DIVIDE PHONEME
S22
i=0
S23
DETERMINE WHETHER PHONEME u_i IS VOICED OR UNVOICED SOUND
S24
S25
IS PHONEME u_i VOICED SOUND?
NO
YES
S26
CALCULATE AVERAGE POWER OF VOICED SOUND PORTION
S27
SET CALCULATED POWER AS REFERENCE POWER VALUE
S28
CALCULATE AVERAGE POWER OF UNVOICED SOUND PORTION
SET CALCULATED POWER AS REFERENCE POWER VALUE
S29
S30
i=i+1
S31
NO
i=PHONEME COUNT?
YES
END

FIG. 9A IN KANA

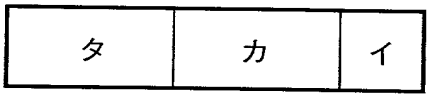


FIG. 9B SPEECH WAVEFORM

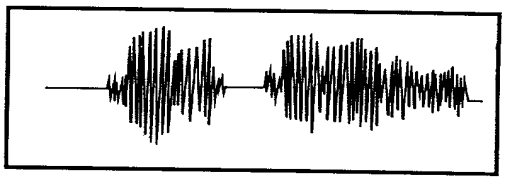


FIG. 9C PHONEME

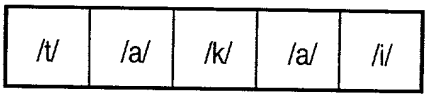


FIG. 9D VOICED/ UNVOICED DETERMINATION RESULT

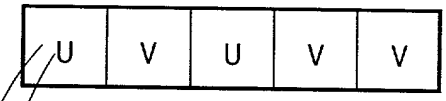


FIG. 9E PHONEME POWER (REFERENCE VALUE)

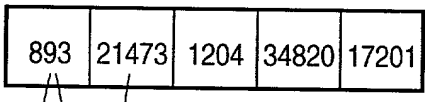


FIG. 9F PARTIAL SPEECH SEGMENT

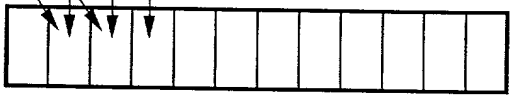


FIG. 9G CV・VC

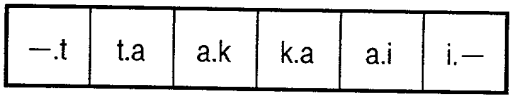


FIG. 10A IN KANA

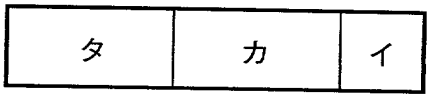


FIG. 10B PHONEME

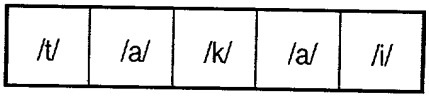


FIG. 10C CV・VC

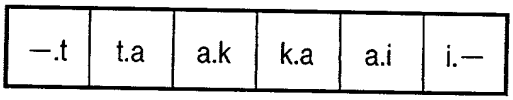
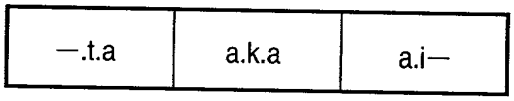


FIG. 10D VCV



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FOREIGN PATENT

FIG. 11A

FIG. 11B

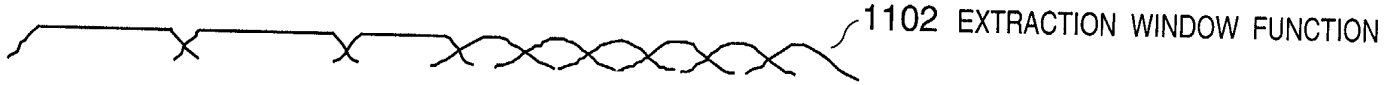

FIG. 11C

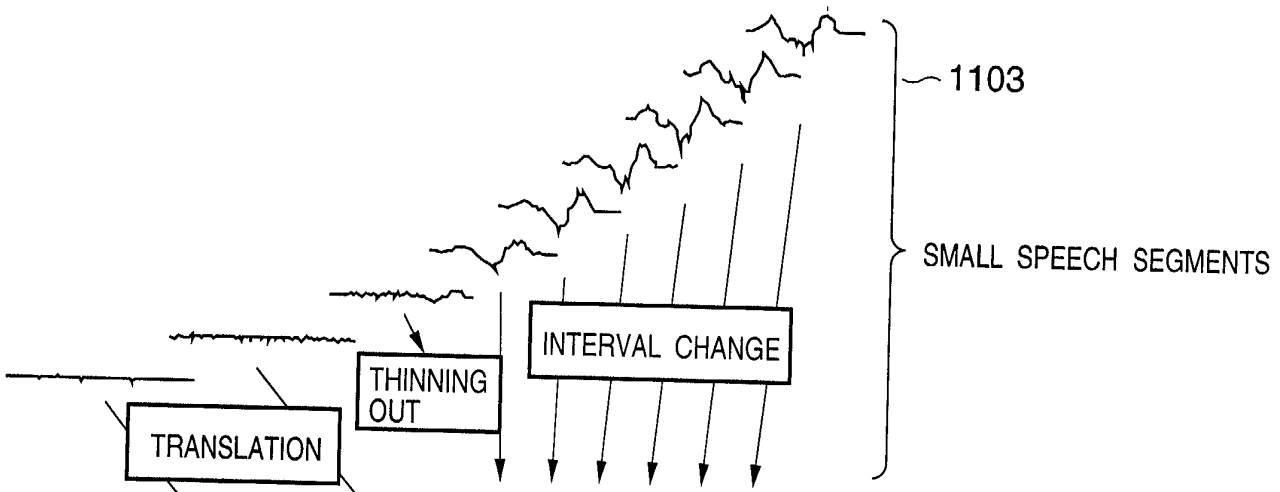

FIG. 11D